

STUDIES OF NEW AND NOTEWORTHY TROPICAL AMERICAN PLANTS --- I

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Among the recent plant collections of G. Klug, B. A. Krukoff, A. E. Lawrance, Y. Mexia, and E. J. Valeur in tropical America which have come to the New York Botanical Garden for identification, there have been found a number of new and noteworthy species, some of which will be very briefly discussed on the following pages. The type specimens of all new species herein described are deposited in the herbarium of the New York Botanical Garden. All of the Lawrance plants mentioned hereinafter were collected in the western part of the department of Boyaca, Colombia, 50--100 km. northwest of Bogotá, in 1932.

Langsdorffia hypogaea Mart. -- A number of complete plants collected June 19 in a thin forest, altitude about 1075 m., Lawrance 251. The collector describes this exceedingly scarce plant as 5--8 cm. tall with red non-odorous flowers, and remarks that it is very rare where found.

Celosia argentea var. *linearis* Sw. -- Flowering stems and roots of this very attractive plant collected June 17 in a high forest front, altitude about 2100 m., Lawrance 235. Field notes indicate the plant as about 1 m. tall, with a stem-diameter of 1.5--3 cm. and purple slightly odorous flowers.

Raimondia quinduensis var. *latifolia* R. E. Fries -- Flowering stems collected June 7 in thick forest fringes, altitude about 1075 m., Lawrance 170. It is described by the collector as a shrub 2.5--3 m. tall, with a stem-diameter of about 5.5 cm. and dirty cream-colored non-odorous flowers.

GYNANDROPSIS HIRSUTA sp. nov. Frutex 1--1.5 m. altus; caulibus simplicibus vel paullum furcatis, superne et praesertim ad nodos hirsutis, inferne glabrescentibus; innovationibus dense purpureo-hirsutis; petiolis 1.5--19 cm. longis, summis brevissimis, juventute purpureo-hirsutis, senectute parciore vel sparse hirsutis, apice plerumque persistente hirsuto; foliis trifoliolatis vel summis simplicibus; petiolulis centralibus 2.5--10 mm. longis dense purpureo-hirsutis; petiolulis lateralibus ad 3 mm. longis vel obsoletis; foliolo centrali elliptico 9.5--17 cm. longo, 3--5.2 cm. lato integerrimo acuminato, ad basin longe attenuato vel cuneato, utrinque dense hirsuto (praesertim subtus et juventute), pilis maturis 2--3 mm. longis et 1 mm. dissitis, juventute perspicue purpureis, subtus in costa et venis secundariis densissimis; foliolis lateralibus plusminus

asymmetricis in omnibus aliis notis foliolo centrali consimilibus; paniculis 10--16 cm. longis sparse hirsutis; bracteis ut videtur nullis (vel caducis et cicatricium oppositorum vel suboppositorum paria 20 plusve in rhachide relinquentibus); floribus ut videtur ad terminationem rhachidis 10--20 subremotis laxe patentibus; pedicellis filiformibus ad 2 cm. longis sparse hirsutis; sepalis 4 ovatis ca. 7 mm. longis et ad basin 2.3 mm. latis, ad apicem argute acutis, dorso plusminus carinatis et sparse hirsutis; petalis 4 rubris vel coccineis ovato-ellipticis ca. 9 mm. longis et 5.2 mm. latis obtuse acutis glabris; toro in glandulam longam binariam secundum androphorum positam prolongato; androphoro crasso ca. 12 mm. longo et ad basin 1.3 mm. lato glabro; staminibus 6 apice androphori emergentibus et gynophorum circumvallantibus; filamentis crassis ca. 5 mm. longis glabris; antheris elongatis lineari-oblongis ca. 5.2 mm. longis et 2 mm. latis; gynophoro brevissimo ca. 0.4 mm. longo; ovario oblongo ca. 2 mm. longo, ad apicem truncato; stylo nullo.

Type, Lawrance 73, collected May 18 along the side of a brook in a thick forest, altitude about 1050 m., in the Mt. Chapón region. The species is related to *G. brachycarpa* DC., from which its 3-foliolate leaves and characteristic purple-hirsute pubescence at once separate it. The collector describes the root-system of the type specimen as "very dainty". Lawrance 233, collected at an altitude of 2100 m. in the Alto Chapón region, June 17, differs from the type only in its much denser and more pronouncedly purple pubescence. Concerning the latter specimen the collector says: "A delightful plant -- would make a fine garden plant."

DIOCLEA PULCHRA sp. nov. Liana alte scandens; ramulis junioribus plusminus dense longeque pilosis vel hirsutis, pilis brunneis; stipulis triangulari-ovatis ca. 8 mm. longis villosis, margine plerumque argute incisis; petiolis 14.5--17.5 cm. longis dense brunneo-villosis; rhachide 4--4.5 cm. supra foliola lateralia producta, petiolo consimili; stipellis subulatis 1.5--2 mm. longis dense villosis; petioulis crassiusculis 8--9 mm. longis dense villosis; foliolo centrali elliptico 13--14 cm. longo 7--8.5 cm. lato asymmetrico, ad basin rotundato, margine integerrimo in siccitate leviter revoluta, ad apicem in cuspidem ca. 1 cm. longam acuminato, supra densiuscule subtus dense strigoso-villosis, venis secundariis utroque latere 10--12 subrectis ad marginem arcuatis subtus valde prominentibus; foliolis lateralibus foliolo centrali consimilibus sed perspicue asymmetricis; inflorescentiis axillaribus singulis validis cernuis ad anthesin ca. 23 cm. longis densifloris, glomerulis florigeris subsessilibus ca. 18 cm. longitudinis racemi possidentibus; calyce firme membranaceo extra breviter piloso intus glabro, tubo ca. 6 mm. longo, lobo superiore late ovato ca. 7 mm.

longo et 10 mm. lato obtuso, dorso selliformi, inferiore anguste ovato vel lanceolato ca. 12 mm. longo acuminato, lobis lateralibus falcato-ovatis ca. 7 mm. longis acutissimis; vexilli limbo ca. 14 mm. longo et 18 mm. lato, ad apicem emarginato, supra basin cartilagineo-incrassato, ad basin valde auriculato, ungue curvato ca. 5 mm. longo et 1.5 mm. lato; alis ovato-oblongis, limbo ca. 14 mm. longo et 10 mm. lato, ad apicem obtuso, ad basin subtruncato in unguem ca. 8 mm. longum cuneato, margine integro; carinae limbo ca. 15 mm. longo et 10 mm. lato, ad apicem profunde 4-lobato, ungue ca. 6 mm. longo; staminibus usque ad 7 mm. monadelphis, supra diadelphis, alternatim longioribus et stylum aequantibus; stylo ca. 20 mm. longo, usque ad 15 mm. longitudinis densissime longeque strigoso-villoso, superne glabro; ovario sessili.

Type, Lawrance 528, collected in a high thick forest, altitude about 925 m., in the El Umbo region, October 12. The plant is described by the collector as a creeper attaining a height of 100--120 feet and a stem-diameter of 2--4 inches, with sticky sap and odorous flowers which are dark heliotrope with a yellow blotch at the top of the throat. The species is a member of the section *Pachylobium* Benth. and is related to *D. coriacea* (Grah.) Rusby and *D. densiflora* Huber. The former differs pronouncedly in its long linear bracts, its mostly glabrous upper leaf-surfaces, and its velutinous-tomentose pubescence on branchlets, peduncles, petioles, and lower leaf-surfaces. The latter differs in its semisagittate stipules, shorter petioles, longer secondary stipules, erect racemes which are flower-bearing almost to the base, and its long linear-subulate and ciliate bracts.

MUCUNA HOLTONI (Kuntze) comb. nov. *Stizolobium Holtoni* Kuntze, Rev. Gen. Pl. 1: 207. 1891. -- Flowering and fruiting stems collected May 13 in impassable thickets of a low forest, altitude about 1075 m., in the Chapón region, Lawrance 44. The collector describes the plant as a creeper 6--10 m. in length, with a stem-diameter of 1.5--3 cm. and yellow non-odorous flowers; "very rare hereabouts." The genus *Mucuna* as recognized by Bentham & Hooker and by Engler & Prantl clearly consists of two distinct genera, as pointed out by David Prain [Journ. As. Soc. Bengal, new series, 66: 404. 1897] and by K. S. Bort [U. S. Dept. Agr. Bur. Pl. Ind. Bull. 141: 31. 1909]. According to these authors, the genus *Mucuna* was first published by Adanson [Fam. Pl. 2: 325. 1763] and the type species is *Mucuna urens* (L.) DC., while the genus *Stizolobium* was first published by Patrick Browne [Hist. Jam. 290. 1756] and the type species is *Stizolobium pruriens* (L.) Pers. The two genera are easily distinguished by the seed. In *Stizolobium* the hilum is linear, elevated, and oblong-crateriform, extending from one-fifth to nearly one-fourth the circumference of the seed, and germination is

not hypogeous. In *Mucuna* [in the restricted sense] the hilum is much elongated and band-like, extending nearly all the way around the seed, and germination is hypogeous. According to these criteria, our species is very plainly a member of *Mucuna*.

Roucheria humiriifolia Planch. -- Flowering stems collected in December, 1929, in a forest at Mishuyacu, near Iquitos, altitude about 100 m., Loreto, Peru, Klug 683. It is described by the collector as a tree 22 m. tall and with orange flowers. The species was known previously from French Guiana.

CASTELARIA GALAPAGEI (Hook. f.) comb. nov. *Castela galapagei* Hook. f., Trans. Linn. Soc. 20: 229. 1851. (1)

ILEX UTILIS sp. nov. Arbor; ramulis glabris; petiolis crassis 11--12 mm. longis glabris in siccitate perrugatis; laminis membranaceis oblongis 8.5--14.5 cm. longis, 3.2--5.5 cm. latis, ad apicem acuminatis, margine fere usque ad basin obtuse dentato vel sinuato in siccitate subrevoluto, ad basin cuneatis, supra glabris nitidisque, subtus glabris obscurisque, venis venulisque utroque prominulis; inflorescentiis glomeratis, glomerulis 4--7-floris; pedicellis crassiusculis ca. 5 mm. longis glabris; calyce subpatelliformi vel peralaxe campanulato incrassato, lobis 4 vel 5 triangularibus ca. 0.7 mm. longis et 2 mm. latis integris hyalinis, ad apicem obtusis; corollae albae lobis 4 vel 5 oblongo- vel subobovato-lingulatis ca. 3.8 mm. longis et 2.6 mm. latis, ad apicem rotundatis, ad basin connatis; staminibus 4 vel 5 e sinibus petalorum emergentibus; filamentis crassis ca. 1.3 mm. longis glabris; antheris triangulari-ovatis ca. 1.1 mm. longis et ad basin 1 mm. latis; ovario subgloboso vel ovoideo ca. 2 mm. longo et lato glabro, ad apicem in stigmatem abeunto.

Type, Lawrance 559, collected November 4 in forest fronts, altitude about 1200 m., in the El Umbo region. The species is described by its collector as a tree 20--30 m. tall with a stem-diameter of 1--1.5 m., whose wood is used extensively by the natives in hut construction. It superficially resembles *I. guianensis* (Aubl.) Kuntze, which, however, differs pronouncedly in its more acute leaf-blades whose margins are entire and whose petioles are much shorter and not wrinkled and its pedunculate inflorescences and smaller flowers.

Cissus rhombifolia var. *glabrescens* Planch. -- Flowering and fruiting stems collected June 28 in the Mt. Chapón region, altitude about 1000 m., Lawrance 263. The collector describes the plant as rambling and growing over vegetation horizontally, with its stems 1.5--4 cm. in diameter, "square, ribbed on the top and bottom only and with fins [=wings?] at all 4 edges." This specimen is placed here only tentatively. It does not agree well with any of the identi-

fied specimens of this variety available for comparison, nor with the description of Planchon [in DC. Monog. Phan. 5: 544--546. 1883]. Planchon states "ramis.....non alatis" and "ramulis hirtis," but in our specimen both the branches and the branchlets are very decidedly and conspicuously 4-winged and glabrous. He likewise states "foliolo intermedio rhombeo- vel subrhombeo-ovato v. ovato," but in our specimen the central leaflets are elliptic-oblong, 10--15 cm. long, 4--8.5 cm. wide, rather abruptly long-acuminate at the apex, and rounded at the base, and the two lateral leaflets are likewise elliptic-oblong, somewhat smaller, rather abruptly long-acuminate at the apex, decidedly inequilateral and obliquely rounded at the base. The fruit is oblong-elongate, 10--14 mm. long, 4--5.5 mm. wide, and sharply acute to a mucronate apex. The specimen may very possibly represent an undescribed variety.

VITIS NOVOGRANATENSIS sp. nov. Frutex scandens 10--13 m. longus; ramis 1/2 poll. in diametro; ramulis gracilibus laxe breviterque villosis, pilis mollissimis et irregulariter dispositis; petiolis gracilibus elongatis 4--10 cm. longis plusminus dense villosis praesertim ad apicem; laminis membranaceis oblongo-rotundatis 8.5--15 cm. longis 8--11.8 cm. latis, ad basin cordatis, ad apicem saepe plusminus 3-lobatis, lobo centrali acuminato uno et lobis lateralibus brevibus acuminatis 2, margine irregulariter angulato-dentatis (dentibus mucronatis, quoque dente venam lateralem unam terminante, dentibus majoribus cum venis majoribus occurrentibus), supra glabris vel minute ad costam et venas majores puberulentibus, subtus praesertim secundum costam et venas majores leviter villosis-pubescentibus; inflorescentiis vel capreolis folia oppositis et subaequantibus; inflorescentiis 10--19 cm. longis plusminus pyramidalipaniculatis ubique dense breviterque villosis, ramulis dense multifloris subremotis; pedunculis gracilibus 6--8 cm. longis sparse breviterque villosis vel subglabratiss, capreolum non-furcatum unum 4--6 cm. supra basin gerentibus; pedicellis gracillimis ca. 1 mm. longis villosis; floribus viridantibus suaveolentibus; calyce parvissimo plusminus patelliformi ca. 1 mm. in diametro et 0.4 mm. longo glabro, margine subtruncato vel irregulariter undulato; disco plano ca. 0.8 mm. in diametro; corolla glabra, petalis 5 praeter basin coherentibus ca. 2 mm. longis, apicibus petalorum involutis ut corolla calyptroides, deorsum visa, habitum 4-umbonatum assumat, a disco sub anthesi decidua, petalis tum ad 2/3 longitudinis fissis et senectute partibus libris extrinsecus volventibus; staminibus 5 aequalibus in discum insertis; basibus filamentorum filiformium hyalinorum ca. 0.8 mm. longorum stricte in canaliculos ovarii adpressis; antheris ovato-ellipticis prope basin percordatam amplissimis, ad apicem emarginatis, ca. 0.5 mm. longis et 0.3 mm.

latis 2-locularibus; ovario subgloboso plusminus tetragono ca. 0.7 mm. longo et lato 4-lobato glabro; stylo brevissimo crasso ca. 0.5 mm. longo truncato-conico glabro plusminus striato; stigmatibus terminali ca. 0.2 mm. lato levi.

Type, Lawrance 162, collected June 6 at the edge of a thick low forest, altitude about 1075 m., in the central Chapón region. The species seems to be related to the North American *V. cordifolia* Michx. and possibly *V. aestivalis* Michx. It is quite distinct from the common tropical American *V. tiliaefolia* H. & B. and *V. caribaea* DC., which differ pronouncedly in pubescence, leaf-shape, and general habit, but most especially in the character and abundance of the pubescence on the leaves.

TRIUMFETTA BOYACANA sp. nov. Frutex 3 m. altus; ramulis et sarmentis teretibus dense (praesertim in innovationibus) breviterque tomentosis, pilis fuscis; petiolis gracilibus 1.5--4 cm. longis dense breviterque tomentosis; laminis ovatis supra atroviridis, subtus pallidioribus, 8--12 cm. longis 4.5--6.5 cm. latis, ad apicem acuminatis, ad basin rotundatis, secundum marginem copiose et irregulariter glanduloso-dentatis, ima basi glandulis magnis sessilibus 4--6 ornatis, supra densiuscule stellatis praesertim ad costam et venas secundarias, subtus densissime stellato-tomentosis; venis secundariis 4 (magnis 2 et parvis 2) e basi folii orientibus, aliis 6 vel 8 e parte $2/3$ superiori costae in paribus approximatis divergentibus, arcuatis ad marginem anastomosantibus; venis tertiariis multis subrectis et subparallelis; paniculis terminalibus ad 10 cm. longis brachiatis subaxe multifloris ubique dense tomentosis; bracteis foliaceis linearibus vel oblongis vel angusto-ellipticis breve stipitatis 3.5--6.4 cm. longis 4--19 mm. latis, foliis consimilibus; pedicellis gracilibus 2--4 mm. longis dense tomentosis; sepalis 5 elongato-linearibus, ad basin et apicem ampliatis, petala paulum excedentibus ca. 13 mm. longis ad basin ca. 2.6 mm. latis, ad medium ca. 1.5 mm. latis et prope apicem ca. 2 mm. latis, ad apicem obtuse acutis et pericullatis, dorso dente erecto subapicali plusminus 0.7 mm. longo ornatis, extra sparse villosis, intus glabris; petalis 5 flavis spathulatis venosis ca. 11.5 mm. longis, e basi conspicuiter papilliformi et longissime pilosa emergentibus, prope basin ca. 1.5 mm. latis, in 5 mm. sequentibus longitudinis ad 2 mm. ampliatis, tum ad ca. 5 mm. abrupte ampliatis, ad apicem rotundatis et subcrenatis, praeter basin glabris; staminibus ca. 30; filamentis filiformibus 8--9.3 mm. longis glabris; antheris oblongis flavis ca. 1 mm. longis et 0.5 mm. latis, ad basin et apicem emarginatis, dorsifixis; pistillo stamina et lobos perianthi paulum excedente; stylo crasso ca. 13 mm. longo glabro; lobis stigmatibus 5-lobatis 0.2 mm. longis; ovario subgloboso ca. 1.3 mm. longo et lato dense tomentoso 4-sulcato ut videtur 4-locu-

lari; ovulis 2 in quoque loculo.

Type, Lawrance 7, collected May 7 in an open forest, altitude about 1200 m., in the Chapón region. The species is apparently related to *T. althaeoides* Lam. and *T. semitriloba* L., but differs in its pubescence and much larger flowers. Its collector states that it is "rare where found" and that its flowers are not odorous. In the size of its flowers it approaches *T. mollissima* H.B.K., but in the latter the pubescence and leaf-shape are entirely different.

PARATHESIS RUBELLA sp. nov. Frutex 5--6 m. altus; hor-
notinis crassiusculis dense puberulentibus glabrescentibus;
petiolis crassis 18--25 mm. longis inconspicue breviterque
subalatis minutissime puberulentibus glabrescentibus; lamin-
is leviter membranaceis oblongis ca. 25 cm. longis, 9.5--11
cm. latis, ad basin subacuminatis, margine integris, ad api-
cem perspicue acuminatis, supra glabris subnitidis, subtus
dense glanduloso-punctatis et costa prominente nervisque
secundariis numerosis parce breviterque pilosis; inflores-
centiis terminalibus multifloris pyramidato-paniculatis ca.
10 cm. latis parce puberulentibus; pedunculis crassiusculis
ca. 7 cm. longis; rachide florifero ca. 9 cm. longo; pedi-
cellis gracilibus 4--5 mm. longis glanduloso-puberulentibus;
sepalis 5 angusto-triangularibus ca. 1 mm. longis, ad basin
ca. 0.3 mm. latis, ad apicem argute acutis, glanduloso-
puberulentibus; corolla rubella 5--5.3 mm. longa, tubo 1 mm.
longo, lobis 5 triangulato-ovatis 4--4.3 mm. longis, ad
basin ca. 1.8 mm. latis, ad apicem acutis, utrinque dense
pubescentibus et lineolis purpureis parallelis punctisque
paucis pictis, senectute recurvis; staminibus 5 ad imam
basin tubae corollae insertis; filamentis maturis ca. 2.8
mm. longis glabris; antheris ovatis acutis 0.8--0.9 mm.
longis, ad basin ca. 0.7 mm. latis, dorso punctis 1--4 nig-
ris pictis; stylo crasso ca. 3.8 mm. longo plusminus piloso
praesertim ad basin; stigmatibus punctiformibus; ovario ovoideo
infra glabrato, supra parce piloso; ovulis paucis summis in
placentam discoideam immersis.

Type, Lawrance 372, collected July 31 in a high thick for-
est along the side of a stream in the Mt. Chapón region. The
flowers are described by the collector as pink and the plant
as very beautiful. It is apparently related to *P. Eggersiana*
Mez from Ecuador and *P. serrulata* (Sw.) Mez from Mexico and
the West Indies to northern South America. The former dif-
fers in its densely ferruginous-villose pubescence, its
smaller and coarsely crenate leaf-blades which are densely
ferruginous-tomentose on the midrib and margins and other-
wise densely pilose beneath, and its sepals being rounded
at the apex and villose along the margins. The latter dif-
fers in its ferruginous-lepidote branchlets, its lepidote
lower leaf-surfaces, its smaller leaf-blades and flowers,
its petals being narrowly rounded at the apex and only

slightly punctate, and its more densely ferruginous-tomentellous pubescence in the inflorescence.

Stylogyne sp. -- Fruiting stems collected June 14 in shade on the south front of a precipice, altitude about 1050 m., in the Chapón region, Lawrance 220. It is described by its collector as a very attractive shrub 2--3 m. tall and said to be "worth propagating." This probably represents a new species, but since no flowers are available, it has been thought best not to describe it as such. The leaves are much like those of *S. micans* Mez, only in our plant they are much larger, being to 31.4 cm. long and 12.8 cm. wide, abruptly short-acuminate at the apex, revolute along the margins, attenuate into the extremely short and stout petiole, and beautifully reticulate-veined. The inflorescence is about one-half as long as the subtending leaves and appears to be terminal, its branches being thick and glabrate. The fruits are borne in subumbellate clusters, on pedicels which are very slender and 7--11 mm. in length.

WEIGELTIA LAWRENCEI sp. nov. Frutex 2.3 m. altus; ramulis et sarmentis gracilibus glabris; petiolis gracilibus 7--10 mm. longis glabris sublate alatis; laminis tenuiter membranaceis vel chartaceis oblongis 9--12 cm. longis 2.7--4.5 cm. latis argute acuminatis, ad basin acuminatis vel tuncatis, margine superne remote dentato, dentibus latis obtusis 4--6 (acuminatione ipsa integra et saepe subcurva), utrinque glabris, subtus dense punctulatis; venatione gracili et venusta; venis secundariis utrinquesecus 6 vel 7, subtus 3--6 mm. a margine conspicuiter anastomosantibus; paniculis axillaribus solitariis numerosis ca. 6 cm. longis rectis, ramulis lateralibus 6 vel 7 brevibus 4--5-floris; pedunculis gracilibus 10--14 mm. longis glabris; rhachide gracili, pedunculo consimili, plerumque minutissime puberulente; pedicellis filiformibus ca. 1.5 mm. longis puberulentibus; lobis calycis 4-partiti ca. 1.5 mm. in diametro patelliformis ovatis ca. 0.7 mm. longis et ad basin 0.5 mm. latis obtuse acutis glabris; lobis corollae 4-partitae ca. 5 mm. in diametro virido-albae ovatis ca. 1.5 mm. longis et latis patentibus et plusminus reflexis obtusissimis, margine scarioso, in loco medio dense papillosis et granulosis; staminibus 4 rectis in centro basis loborum corollae insertis; filamentis ca. 1 mm. longis glabris; antheris late ovatis vel triangulatis ca. 0.5 mm. longis et latis ad basin bilobatis 2-locularibus; ovario non viso.

Type, Lawrance 32, collected May 9 in a thick forest, altitude about 1075 m., in the Mt. Chapón region. The flowers are said by the collector to possess no odor. The species is apparently a member of the subgenus *Euweigeltia* Mez and related to *W. bogotensis* Mez, which differs in its ferruginous-tomentellous branchlets, longer petioles, larger leaves with very conspicuously lighter margins, and larger inflor-

essences which surpass the leaves.

Echites microcalyx A. DC. -- Flowering stems collected May 13 in impassable thickets of a low forest, altitude about 1100 m., Lawrance 51. The collector describes the plant as a creeper 3--6 m. in length, with a stem-diameter of 0.4--0.9 cm. and yellow non-odorous flowers. The leaves on our plant are less pubescent than is ordinarily seen in this species, but in all other respects it agrees well with typical material.

Odontadenia sp. -- Flowering stems and one fruit collected June 8 in thick forest fringes, altitude about 900 m., Lawrance 182. Field notes indicate the plant as a creeper 12--15 m. in length, with flat stems 1.5--3 cm. in diameter and very pretty slightly odorous pink flowers which are fringed with heliotrope. This may represent a new species since it does not match any of the available herbarium material at this institution nor does it agree well with any published description. The stems are bi-alate and glabrous; leaves opposite; petioles elongate, 6--7.5 cm. long, glabrous; blades broadly rotund, to 12 cm. long and 10.5 cm. wide, rounded to an acuminate apex (the acumination being about 15 mm. long), entire, very deeply cordate at base, glabrous above, very lightly puberulent or subglabrate beneath; inflorescence to 28 cm. long; peduncles 6--7 cm. long; pedicels slender, 2.5 cm. long; calyx about 4 mm. long and 6 mm. wide; corolla-tube to 5 mm. long, 1.5 mm. wide at the apex.

FISCHERIA VIRIDIS sp. nov. Frutex scandens; ramis et ramulis crassis fistulatis dense brevissimeque furfuraceo-pubescentibus, pilis brunneis, et sparsim setosis, setis multicellularis usque ad 4 mm. longis; petiolis crassis 1--2 cm. longis dense brunneo-furfuraceis et plusminus setosis; laminis firme membranaceis oblongo-ellipticis 10--12 cm. longis, 5--6.5 cm. latis, ad apicem in caudam 1 cm. longam acuminatis, margine integerrimis in siccitate plusminus revolutis, ad basin cordatis vel subauriculatis, supra dense subtus densissime strigoso-setosis, pilis brevibus ad basin tumidis; costa venisque secundariis (utroque 6 vel 7) et reticulo venulorum subtus insigniter perspicuis et densissime brunneo-furfuraceis; cymis multifloris foliam subtendentam subaequantibus vel paullo brevioribus; pedunculo crasso 2--7.5 cm. longo dense brunneo-furfuraceo et sparsim setoso; pedicellis crassiusculis 1--3.5 cm. longis in pubescentia pedunculo consimilibus; calycis segmentis lanceolatis ca. 6 mm. longis ad basin ca. 1.6 mm. latis in apicem acutam vel subacuminatam longe attenuatis, reflexis, dorso dense granuloso-pubescentibus et sparsim longeque setosis, intus glabris; corolla campanulata viridi usque supra basin 5-partita, lobis subovato-oblongis ca. 18 mm. longis et 6.5 mm. latis, ad apicem acutam angustatis, margine e medio ad

apicem duo latere valde crispis, perspicue reticulato-venosis, extra parce pilosis, pilis brevissimis ad basin tumidis, intus glabris; corona exteriori basi corollae arcte adnatis, lobis 1--1.5 mm. longis et latis carnosis crispis glabris; coronae interioris foliolis carnosis, dorso antherarum adnatis, apice ampliatis cucullatisque, summis incrassatis bullato-subpapillois, antice in rostrum porrectum productis; antheris curvatis, appendicibus hyalinis ca. 0.7 mm. summam antheris excedentibus; pollinibus ca. 1.3 mm. latis, translatoribus perbrevis, retinaculo rhomboideo brunneo ca. 0.42 mm. longo, massis pollinibus late obtuseque rotundo-lingulatis ca. 0.7 mm. longis et (ad apicem) latis; stigmatibus ca. 2.6 mm. in diametro.

Type, Lawrance 396, collected August 8 in high forest fronts in the upper Chapón region. It is described by its collector as a creeper 75--100 feet in height, with a stem-diameter of 1/2--1 inch and inodorous green flowers which are mottled with tiger-like stripes of moss-green. The species is very closely related to *F. columbiana* Schultr. The latter, however, differs in the following respects: (1) its pubescence throughout (exclusive of the setae) is much finer and shorter granulose-velutinous-puberulent, (2) its branches and branchlets are "filiform", (3) its leaf-bases are merely "subcordate", (4) the secondary veins are 10--12 in number on each side of the midrib and arranged close together, (5) the cymes exceed the leaves in length, (6) the pedicels are slender and only to 2 cm. long, (7) the calyx-segments are oblong-lanceolate, to 4 mm. long, patent, and obtuse at the apex, (8) the corolla is subrotate, (9) the corolla-lobes are only to 7 mm. long, crisped on only one side and only to just below the apex, and densely puberulent within, (10) the exterior corona is annular and puberulent, and (11) the retinaculum is many times shorter than the pollen-masses.

Ipomoea cardiosepala Meisn. -- Flowering stems collected June 7 at the fringe of a thick forest, altitude about 1100 m., Lawrance 167. The plant is described by the collector as a creeper 6--12 m. in length, with a stem-diameter of 0.7--1.5 cm. and deep pink non-odorous flowers; "very scarce hereabouts." The species was known hitherto from British Guiana. The sepals in our specimen are exceptionally long-ciliate and the leaves larger than any hitherto seen.

Ipomoea denticulata (Desr.) Choisy -- Flowering stems collected May 17 in a thin forest, altitude about 1200 m., Lawrance 59. The plant is described by its collector as a vine about 1 m. in length, with a stem-diameter of 0.8 cm. and white non-odorous flowers with a purple throat. Our specimen is much more pubescent on the stems, petioles, blades, peduncles, and sepals than is usually seen in this

species, but agrees well in all other respects.

Ipomoea Nil (L.) Roth -- Flowering and fruiting stems collected June 9 in open spaces in fringes of a forest, altitude about 1100 m., in the Chapón region, Lawrence 193. Field notes indicate the plant as a rambling creeper with a stem-diameter of about 4 mm. and pretty deep heliotrope non-odorous flowers. Our plant is remarkable in having entire and unlobed leaf-blades, beautifully rounded to an acuminate apex and deeply cordate at the base. The characteristic narrowly-elongate sepals and the characters of the corolla and of the pubescence on the stems and leaves, however, leave no doubt as to the identity of this plant.

TASSADIA APOCYNELLA Gleason & Moldenke, sp. nov. Frutex scandens; ramis gracilibus striatis parce puberulis; ramulis gracilibus dense puberulis; petiolis pergracilibus 5--11 mm. longis minute puberulis vel subglabris; laminis oblongo-ellipticis supra mediam amplissimis 4.7--6.3 cm. longis, 2.1--3 cm. latis, ad apicem acuminatis et in cuspidem ca. 3 mm. longam prolongatis, margine integris in siccitate valde revolutis, ad basin cuneatis, supra minutissime puberulis vel glabris, subtus glabris punctatisque; inflorescentiis paniculatis ramulos axillares 2--0-foliatos terminantibus, umbellis sessilibus 3--8-floris; rhachide et ramulis floriferis dense puberulis; pedicellis pergracilibus 2--3 mm. longis puberulis; sepalis ovato-oblongis ca. 1 mm. longis et 0.5 mm. latis, ad apicem acutis vel subacutis, margine tenuibus scariosisque, tantummodo ad basin connatis, dorso pilosis; corolla ante anthesin suburceolata ad anthesin campanulata, tubo ca. 1.6 mm. longo, lobis ovato-lanceolatis ca. 1.8 mm. longis et 0.7 mm. latis valde recurvatis vel circinatis dense pilosis, ad apicem obtusis vel subacutis; coronae lobis ex parte latissima gynostegii emergentibus semicircularibus ca. 0.5 mm. longis et latis glabris, ut videtur simplicibus, ad apicem subacutis; gynostegio pyramidalis ca. 1.3 mm. longo et lato; stigmatibus vix convexo ca. 0.35 mm. lato; antherarum appendicibus hyalinis truncato-triangularibus ca. 0.1 mm. longis; pollinibus ca. 0.2 mm. latis; corpusculo lineari-oblongo ca. 0.15 mm. longo brunneo; massis pollinis anguste obovoideis ca. 0.15 mm. longis; caudiculis curvatis.

Type, Lawrence 584, collected November 13 in forest fringes along a brookside, altitude about 1100 m., in the El Umbo region. The plant is described by its collector as a creeper 15--20 feet long, with a stem-diameter of 1/4--1/2 inch and slightly odorous pale yellow star-shaped flowers. It is closely related to *T. recurva* Rusby, which, however, differs in its leaf-blades being widest at or below the middle, more or less pubescent-pilose above, especially when immature, and non-punctate beneath, its longer and denser pubescence on branchlets, petioles, rachis, and ped-

icels, its calyx-lobes equaling or somewhat exceeding the corolla-tube, and other more minute characters of the floral parts.

CERDANA GERASACANTHUS (L.) comb. nov. *Cordia Gerasacanthus* L. Syst., ed. 10, 936. 1759. — Collected March 28—30, 1920, in the vicinity of Montego Bay, Jamaica, W. R. Maxon & E. P. Killip 1441.

Varronia guianensis Desv. — Flowering stems collected May 25 in a thick forest, altitude about 1200 m., Lawrance 117. It is described by its collector as a shrub about 2 m. tall, with a stem-diameter of 3—6 cm. and greenish-white non-odorous flowers. The species was known previously from British Guiana.

LYCIANTHES NOVOGRANATENSIS sp. nov. Frutex scandens; ramis et ramulis glabratiss vel parciissime pilosis brunneis, innovationibus et interdum senectute ad nodos plusminus setosis, pilis simplicibus vel furcatis; petiolis 2—11 mm. longis glabratiss; laminis subchartaceis oblongo-ellipticis 6.3—12.2 cm. longis 3.7—6.2 cm. latis ad apicem acuminatis, margine integris in siccitate subrevolutis, ad basin inaequaliter acutis, supra nitidis et in siccitate nigrescentibus glabris, subtus pallidioribus viridibus glabratiss vel ad costam et venas secundarias parciissime setosis; venis secundariis utroque 4—7 utrinque prominulis, venulorum reticulo subtus insigniter perspicuo sed non elevato; pedicellis 7—25 mm. longis, sub fructu incrassatis; calyce campanulato ca. 7 mm. longo et 9 mm. lato parce piloso, margine scarioso erosotruncato, dentibus 10 linearibus inter se 2.5—6 mm. in longitudine variis constanter 0.7—1 mm. latis ad apicem obtusis, ca. 2 mm. infra marginem calycis abeuritibus; corolla campanulata alba, tubo ca. 2.5 mm. longo, lobis 5 lanceolatis ca. 2 cm. longis et 4.5 mm. latis ad apicem subacutis, fere usque ad apicem membranis subhyalinis interpetalariis glabris conjunctis; staminibus ad oram tubae corollae insertis aequalibus; filamentis crassis aequilongis ca. 1.5 mm. longis; antheris ovatis ca. 7.5 mm. longis, ad basin 3 mm. latis et cordatis, ad apicem attenuatis, poris minutis apicalibus; stylo ca. 13 mm. longo; stigmate obtuse capitato; ovario ovato ca. 2.8 mm. longo et ad basin 2.5 mm. lato glabro; calyce fructifero indurato ca. 5 mm. longo et 15 mm. lato, dentibus ad 11 mm. longis.

Type, Lawrance 478, collected in forest fringes at a streamside, altitude about 1100 m., in the El Umbo region. The plant is described by its collector as a woody vine 6—10 feet in height, with a stem-diameter of 1/3 inch and pure white slightly odorous flowers whose stamens are cream-colored. He reports further that the species flowers only at night. Lawrance 362 is a fruiting specimen from the Mt. Chapón region and is described as a vine attaining a height of 20—30 feet and a stem-diameter of 1/4—1 inch. It was

collected in a thin low forest at an altitude of about 1200 m. The species is apparently a member of the subgenus *Polymeris* (Dun.) Bitt.

Mendoncia Lindavii Rusby — Flowering stems collected May 18 in an open forest, altitude about 1100 m., Lawrence 69. Field notes indicate the plant as a creeper 6--9 m. in length, with a stem-diameter of 1--2.5 cm. and red non-odorous flowers. The species was known previously from Bolivia.

CITHAREXYLUM FRUTICOSUM var. *SUBSERRATUM* (Sw.) stat. nov. *Citharexylum subserratum* Sw. Prod. Veg. Ind. Occ. 91. 1788.

CITHAREXYLUM INTEGERRIMUM (Kuntze) stat. nov. *Citharexylum villosum* var. *integerrimum* Kuntze, Rev. Gen. Pl. 2: 504. 1891.

CITHAREXYLUM MONTEVIDENSE (Spreng.) comb. nov. *Ehretia montevidensis* Spreng. Syst. 1: 647. 1825.

CITHAREXYLUM RIGIDUM (Briq.) stat. nov. *Citharexylum myrianthum* var. *rigidum* Briq., Ann. Conserv. & Jard. Bot. Genève 7-8: 317. 1904. -- Although the binomial *Citharexylum rigidum* appears in the article by Briquet cited above, it appears there merely as a herbarium name given in synonymy. It has therefore not been validly published hitherto.

Citharexylum fruticosum var. *villosum* (Jacq.) O. E. Schulz — Fruiting specimens collected May 30, 1931, in a semi-arid pine region at Monción, altitude 300--400 m., district of Monción, province of Monte Cristi, Dominican Republic, Valeur 662. Field notes indicate the plant as a tree with white fruit and record the vernacular name "penda." This collection is a splendid example of the typical form of this variety.

Lantana Chamissonis (D. Dietr.) Benth. & Hook. -- Flowering specimens collected March 15 and 17, 1930, at the edge of and in openings in cut-over woods, altitude 650--700 m., on Agricultural Hill of the Agricultural College lands and near the boundary of Sha-Sha Valley, Vigosa, state of Minas Geraes, Brazil, Mexia 4468a and 4474. The plant is described by its collector as a shrub 1--1 1/2 m. tall, with flowers either white or red to orange and leaves with a verbena-like odor, and is said to be so abundant as to be a feature in the landscape. She reports the vernacular name "cambará."

Petrea Schomburgkiana Schau. -- Flowering specimens collected in December, 1931, in an old clearing in the Machado River region, state of Matto Grosso, Brazil, Krukoff 1575. Field notes describe the plant as a woody vine.

Vitex cymosa Bert. -- Flowering specimens collected in September, 1931, on varzia land near Cassipa, Tapajos River region, state of Pará, Brazil, Krukoff 1259. The plant is described by its collector as a tree 10 m. tall, with a stem-diameter of about 22 cm. at 1.5 m. from the base; vern-

acular name, "taruma." -- Fruiting specimens collected in December, 1931, on varzia land along a river shore near Tabajaza in the upper Machado River region, state of Matto Grosso, Brazil, Krukoff 1472. It is described as a tree 25 m. tall and 6 dm. in diameter at 1.5 m. from the base, with violet flowers and the vernacular name "taruman."

Monographic studies of the genus *Bouchea*, carried out by the present writer during the past year with the cooperation and assistance of botanical institutions in America and in Europe, have convinced him of the correctness of the conclusions advanced by Myrle Grenzabach in her excellent treatise on this group [Ann. Mo. Bot. Gard. 13: 80--100. 1926] in regard to the distinctness of the South African genus *Chascanum* from the genus *Bouchea*. This matter will be discussed in detail in the present writer's forthcoming monograph of the latter genus. In the meantime, it has been found necessary to publish the following new binomials:

BOUCHEA BOLIVIANA (Kuntze) comb. nov. *Valerianodes boliviana* Kuntze, Rev. Gen. Pl. 3: 254. 1898.

CHASCANUM INCISUM (Pearson) comb. nov. *Bouchea incisa* Pearson, Trans. S. Afr. Phil. Soc. 15: 180. 1904.

CHASCANUM INTEGRIFOLIUM (Pearson) comb. nov. *Bouchea integrifolia* Pearson, Trans. S. Afr. Phil. Soc. 15: 179. 1904.

CHASCANUM KROOKII (Guerke) comb. nov. *Bouchea Krookii* Guerke, Ann. Nat. Hofmus. 20: 45. 1905.

CHASCANUM LATIFOLIUM (Harv.) comb. nov. *Bouchea latifolia* Harv. Thes. Cap. 2: 57. 1863.

CHASCANUM LONGIPETALUM (Pearson) comb. nov. *Bouchea longipetala* Pearson in Thiselton-Dyer, Fl. Cap. 5: 199. 1901.

CHASCANUM NAMAQUANUM (Bolus) comb. nov. *Bouchea namaquana* Bolus ex Pearson in Thiselton-Dyer, Fl. Cap. 5: 204. 1901.

CHASCANUM SCHLECHTERI (Guerke) comb. nov. *Bouchea Schlechteri* Guerke, Notiz. K. Bot. Gart. Berlin 3: 75. 1900.

CHASCANUM SESSILIFOLIUM (Vatke) comb. nov. *Bouchea sessilifolia* Vatke, Linnaea 43: 529. 1882.

CHASCANUM WILMSII (Guerke) comb. nov. *Bouchea Wilmsii* Guerke, Notiz. K. Bot. Gart. Berlin 3: 74. 1900.

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(1) For discussion of the genus *Castelaria* and the related genus *Neocastela* [Castela] see Small in N. Am. Fl. 25: 227 and 230. 1911.

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